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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,397	02/01/2005	Joerg Huschke	P16309-US1	7256

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ERICSSON INC.  
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EXAMINER
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NGUYEN, SIMON

ART UNIT	PAPER NUMBER
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2618

MAIL DATE	DELIVERY MODE
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08/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/505,397

Applicant(s)

HUSCHKE ET AL.

Examiner

SIMON D. NGUYEN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Claim 7 cannot depend on claim 6, since claim 6 has been cancelled.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5, 7-9, 15, 17, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (2003/0095562) in view of Peele (6,898,431).

Regarding claim 1, Liu discloses a method of reallocating time-slots (spectrum) resources for a plurality of radio networks (NIUs, figs. 1-2) in accordance with a predefined allocation scheme (GBA or DBA), wherein the channel resources has previously been allocated to each RN (in GBA scheme) (paragraph 8), comprising: generating and transmitting a request for reallocating the channel resources to a server

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(a base transceiver station is functioned as a server) and the server processes the request to reallocate the channel resources to the plurality of RNs (figs.1-2, paragraphs 14-16, 24-29, 37-40). However, Liu does not specifically disclose the spectrum credit relating to elementary spectrum units and being exchangeable into resource.

Peele discloses a dynamic reallocating spectrum resource, comprising: each sectorized cell is assigned channels based on users in the sector during a normal operation (as the spectrum credit relating to elementary units) and being exchangeable into resource (in the case, for example, a first sector has a traffic exceeding a predetermined threshold, unused channels in other sectors will be used to assign to the first sector in order to handle the traffic (abstract, column 3 line 56 to column 4 line 37, fig.3). therefore, it would have been obvious to one skilled in the art at the time the invention was made to have Liu, modified by Peele to improve the spectrum resource according to a traffic demand in the system.

Regarding claim 15, this claim is rejected for the same reason as set forth in claim 1, wherein a program for executing the spectrum allocation/reallocation method is inherently in the system.

Regarding claim 17, this claim is rejected for the same reason as set forth in claim 1, as apparatus.

Regarding claims 19-20, these claims are rejected for the same reason as set forth in claim 1, wherein the BTS is considered as a server.

Regarding claim 2, Liu further discloses the reallocation of time-slots is dynamically (abstract) which means the reallocation time slots are performed quasi-continuously.

Regarding claim 3, Peele further discloses the controller checking a co-channel interference before the reassignment (abstract), which means the system checks for the service quality.

Regarding claim 5, Liu-562 discloses a portion of the frequency spectrum is reallocated (abstract, paragraphs 26-27).

Regarding claim 7, Liu-562, further discloses the same time-slots are allocated for all NIUs (abstract, paragraphs 13, 40) and the request for extra time slots is provided based on demand (paragraphs 26-27).

Regarding claim 8, Liu-562 further discloses the network reassigns the spectrum among the NIUs ((paragraphs 14-15, 24-29).

Regarding claim 9, Liu-562 further disclose the network allocating DBA time slots based on demand which means when the DBA time slots not in use, the network will assign to other NIUs (abstract, paragraphs 24-27), or the requested time slots used only for a temporary time, after the demand is less, the time slots will be de-allocated.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (2003/0095562) in view of Peele (6,898,431) and further in view of Shionozaki (6,038,214).

Regarding claim 4, the modified Liu fails to teach reallocating whole spectrum.

Shionozaki discloses reallocating whole or part of spectrum (column 2 lines 30-31, 47-48, column 8 lines 19-20). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have modified Liu, modified by Shionozaki to allocate a portion or whole spectrum in order to improve the dynamical resource allocation.

5. Claims 10-14, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al. (2003/0095562) in view of Peele (6,898,431) and further in view of O'Neil (7,099,681).

Regarding claims 10-14, 18, the modified Liu fails to teach a resource auction.

O'Neil in the same field of invention, discloses a resource bidding or auction (column 3 line 38, column 13 lines 44, 54,57, column 14 line 16, column 15 lines 1-7). It should be noted that in a bidding war for a spectrum resource, the bidding should be involved a bundle of frequencies and whose with the highest bid will get the resource, which is known to those skilled in the art. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have modified Liu, modified by O'Neil in order to satisfy a resource request in a case of the network does not has an insufficient resource for all users.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-5, 7-15, 17-20 have been considered but are moot in view of the new ground(s) of rejection.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Nguyen whose telephone number is (571) 272-7894. The examiner can normally be reached on Monday-Friday from 7:00 AM to 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban, can be reached on (571) 272-7899.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

600 Dulany, Alexandria, VA 22314

Or faxed to:

(571) 273-8300 (for formal communications intended for entry)

Hand-delivered response should be brought to Customer Service Window located at the Randolph Building, 401 Dulany, Alexandria, VA, 22314.

Simon Nguyen

July 23, 2007



**SIMON NGUYEN**  
**PRIMARY EXAMINER**